



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,241	04/03/2001	Mark A. Hughes	922-128	8894

23117 7590 02/16/2006

NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER
----------

LY, ANH VU H

ART UNIT	PAPER NUMBER
----------	--------------

2667

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/824,241

Applicant(s)

HUGHES ET AL.

Examiner

Anh-Vu H. Ly

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. This communication is in response to applicant's amendment filed November 30, 2005.  
Claims 1-8 are pending.

***Claim Objections***

2. Claim 3 is objected to because of the following informalities: in lines 2 and 3, "PHS" should be changed to -PSH-. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura et al (US Patent No. 6,553,031 B1). Hereinafter, referred to as Nakamura.

With respect to claim 1, Nakamura discloses a method for controlling an allocation of packet transmission priority to TCP packets within a switch to transmit packets thereover (Fig. 5), said method comprising:

a) determining whether a packet passing through said switch to be transmitted is a TCP control packet (col. 9, lines 15-19, if the two least significant bits of TOS indicate the connection

Art Unit: 2667

establishment flag “11”, an entry priority is set to “1” or set to “0” if no two least significant bits do not indicate the connection establishment flag. Herein, a determination is made to determine whether the received TCP packet is a control packet);

b) assigning a packet transmission priority to such determined TCP control packets that is different to the priority of TCP data packets that such TCP control packets control (col. 6, lines 11-15, the connection establishment flag “11” may be set to the first user packet for each connection or may be set to a header of a control IP packet including dummy data, which is transmitted prior to the first user packet. Herein, the TCP control packet is assigned a higher priority for transmitting first prior to transmit the user data packets).

With respect to claims 2, 5, and 8, Nakamura discloses checking flag bits within the TCP header and establishing if any flag other than a PSH flag bit is set (col. 13, lines 27-40 and Figs. 10 and 12, the control information extractor circuit 16 may extract the seventh byte of TCP header in which the TCP code bit regions is located. If the 19<sup>th</sup> byte is found to be effective, e.g., including the code bits of TCP, the establishment or disconnecting of the connection may be determined according to the logical OR of the check result of the SYS bit and FIN bit in the TCP code bit region. Herein, at least a flag other than a PSH flag is set).

With respect to claims 3, 6, and 8, Nakamura discloses that in which packets having a flag bit other than PSH set are assigned an increased priority of packet transmission relative to those with the PSH flag bit set (col. 6, lines 11-15, the connection establishment flag “11” may be set to the first user packet for each connection or may be set to a header of a control IP packet

including dummy data, which is transmitted prior to the first user packet. Herein, the TCP control packet with SYS or FIN bits set is assigned a higher priority for transmitting first prior to transmit the user data packets).

With respect to claim 4, Nakamura discloses a switch including (Fig. 5):

a logic for snooping a TCP header in a TCP packet being transmitted through said switch (Fig. 5, processor 17) and establishing whether said TCP packet is a TCP control packet (col. 9, lines 15-19, if the two least significant bits of TOS indicate the connection establishment flag “11”, an entry priority is set to “1” or set to “0” if no two least significant bits do not indicate the connection establishment flag. Herein, a determination is made to determine whether the received TCP packet is a control packet); and

means for assigning a packet transmission priority to said TCP packet dependent on whether it is a TCP control packet (col. 6, lines 11-15, the connection establishment flag “11” may be set to the first user packet for each connection or may be set to a header of a control IP packet including dummy data, which is transmitted prior to the first user packet. Herein, the TCP control packet is assigned a higher priority for transmitting first prior to transmit the user data packets).

With respect to claim 7, Nakamura discloses a switch for the reception and transmission of TCP packets including both control packets and non-control packets each having a header conforming to the TCP (Fig. 1), said switch including:

Art Unit: 2667

a multiplicity of ports for receiving and transmitting said TCP packets (Fig. 1, In1 to In-n and Out-1 to Out-n);

means for allocating a packet transmission priority to TCP packets within said switch as they are being transmitted (col. 6, lines 11-15, the connection establishment flag “11” may be set to the first user packet for each connection or may be set to a header of a control IP packet including dummy data, which is transmitted prior to the first user packet. Herein, the TCP control packet is assigned a higher priority for transmitting first prior to transmit the user data packets);

means for checking flag bits within the header of each of said TCP packets to determine whether a given TCP packet is a TCP control packet (col. 9, lines 15-19, if the two least significant bits of TOS indicate the connection establishment flag “11”, an entry priority is set to “1” or set to “0” if no two least significant bits do not indicate the connection establishment flag. Herein, a determination is made to determine whether the received TCP packet is a control packet); and

means for assigning a packet transmission priority to said given TCP packet dependent on whether it is a TCP control packet (col. 6, lines 11-15, the connection establishment flag “11” may be set to the first user packet for each connection or may be set to a header of a control IP packet including dummy data, which is transmitted prior to the first user packet. Herein, the TCP control packet is assigned a higher priority for transmitting first prior to transmit the user data packets).

***Response to Arguments***

4. Applicant's arguments filed November 30, 2005 have been fully considered but they are not persuasive.

Applicant argues in page 6 that Nakamura fails to disclose assigning packet transmission priority among commonly addressed packets or indicating that any packet of a given TCP/IP session would have any higher transmission priority than any other.

Examiner respectfully disagrees. Nakamura discloses that the connection establishment flag "11" may be set to the first user packet for each connection or may be set to a header of a control IP packet including dummy data, which is transmitted prior to the first user packet. Herein, the TCP control packet is assigned a higher priority by transmitting the TCP/IP control packet first prior to transmit the TCP/IP user data packets (col. 6, lines 11-15). Therefore, Nakamura addresses the argued and claimed limitation.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2667


however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
ELECTRONIC BUSINESS CENTER  
2/15/06